

IN THE SPECIFICATION

Please amend the Specification as follows:

The paragraph beginning at page 1, line 19, is amended as follows:

19 This invention is related to:
20 U.S. Patent ~~Application Serial No. 09/350,051~~ **6,603,103**, entitled "CIRCUIT FOR
21 MACHINE-VISION SYSTEM" (~~Attorney Docket No. 139.040US1~~), filed
22 ~~July 8, 1999~~,
23 U.S. Patent Application Serial No. 09/350,050, entitled "MACHINE-VISION
24 SYSTEM AND METHOD FOR RANDOMLY LOCATED PARTS"
25 (~~Attorney Docket No. 139.041US1~~ now abandoned), filed July 8, 1999,
26 U.S. Patent Application Serial No. 09/350,255, entitled "PARTS MANIPULATION
27 AND INSPECTION SYSTEM AND METHOD" (~~Attorney Docket No.~~
28 ~~139.042US1~~ now abandoned), filed July 8, 1999,
29 U.S. Patent Application Serial No. 09/349,684, entitled "MACHINE-VISION

The paragraph portion beginning at page 2, line 1, is amended as follows:

1 SYSTEMS AND METHODS WITH UP AND DOWN LIGHTS” (~~Attorney~~
2 ~~Docket No. 139.052US1 now abandoned~~), filed July 8, 1999,
3 U.S. Patent Application Serial No. 09/349,948, entitled “METHOD AND
4 APPARATUS TO CALCULATE BGA BALL TOPS” (~~Attorney Docket~~
5 ~~No. 139.055US1 now abandoned~~), filed July 8, 1999,
6 U.S. Patent ~~Application Serial No. 09/350,051~~ 6,522,777, entitled “COMBINED 3D- AND
7 2D-SCANNING MACHINE-VISION SYSTEM AND METHOD”
8 (~~Attorney Docket No. 139.056US1~~), ~~filed July 8, 1999~~,
9 U.S. Patent Application Serial No. 09/350,037, entitled “MACHINE-VISION
10 SYSTEM AND METHOD HAVING A SINE-WAVE PROJECTION
11 PATTERN” (~~Attorney Docket No. 139.057US1 now abandoned~~), filed July 8, 1999,
12 U.S. Patent Application Serial No. 09/350,251, entitled “TRAY FLIPPER
13 AND METHOD FOR PARTS INSPECTION” (~~Attorney Docket No.~~
14 ~~139.059US1~~), filed July 8, 1999,
15 U.S. Patent ~~Application Serial No. 09/_____,~~ 6,509,559, entitled “BINARY GRATING AND
16 METHOD FOR GENERATING A MOIRE PATTERN FOR 3D
17 IMAGING” (~~Attorney Docket No. 139.066US1~~), ~~filed June 20, 2000~~,
18 U.S. Patent ~~Application Serial No. 09/_____,~~ 6,486,963, entitled “PRECISION 3D
19 SCANNER BASE AND METHOD FOR MEASURING
20 MANUFACTURED PARTS” (~~Attorney Docket No. 139.067US1~~), ~~filed on~~
21 ~~June 20, 2000~~,
22 U.S. Patent ~~Application Serial No. 09/_____,~~ 6,501,554, entitled “3D SCANNER AND
23 METHOD FOR MEASURING HEIGHTS AND ANGLES OF
24 MANUFACTURED PARTS” (~~Attorney Docket No. 139.068US1~~), ~~filed on~~
25 ~~June 20, 2000~~,
26 which are all assigned to a common assignee, and which are incorporated herein by
27 reference.

The paragraph beginning at page 11, line 18, is amended as follows:

18 Figure 3 shows a cut-away side-view schematic of yet another
19 embodiment of the present invention, an electronically-controlled variable-angle
20 machine-vision illumination system 300. In some embodiments, system 300
21 represents a detailed view of system 200 of Figure 2. Thus, in these embodiments,
22 LCDs 310 include a plurality of concentric ring LCD areas (shown are rings 301,
23 302, 303, 304, 305, 306, 307, and 308), each ring area driven by one of the drivers
24 324. In the embodiment shown, selector 329 selects one or more individual drivers
25 325, 326, 327, and/or 328. Driver 325 drives LCD ring sections 304 and 308; driver
26 326 drives LCD ring sections 301 and 305; driver 327 drives LCD ring sections 302
27 and 306; driver 328 drives LCD ring sections 303 and 307. In some embodiments,
28 further concentric rings are added to each of these four sets. In other embodiments,
29 more or fewer sets are provided, and more or fewer LCD areas are included in each

1 set. Since LCD drivers 324 can drive one or more LCD sets, one or more angles
2 selected from the four angles alpha, beta, gamma, and delta (α , β , γ , and δ) can be
3 illuminated at one time. In embodiments that are circularly symmetric, these are
4 conical angles to the optical axis 105. In some embodiments, LED drivers 322 drive
5 LED light source ~~308~~ 309 in one or more banks, as described above for illumination
6 driver 222 of Figure 2